

PROJECT TITLE : BIOTECHNOLOGY  
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#### CONTAMINATIONS

Contaminations of the 500-1 fermenter and storage tanks in the LEAR pilot plant by bacterial cultures were found. 6 bacterial strains were isolated and sent out for identification.

#### YEAST ADAPTATION

Candida utilis from LEAR trial 8 was isolated after 2 months' continuous running. The isolated strain was compared with the original one in order to determine any changes in growth or denitration characteristics. No improved growth or denitration of the isolated strain in strip extracts could be found.

#### INFLUENCE OF NICOTINE ON DENITRATION

Strip extracts may contain up to 3000 ppm nicotine. This value is 5 to 10 times higher than those found in a stem extract. Growth, denitration and cell mass production of Candida utilis were measured in the presence of different nicotine concentrations in order to check the influence of this substance on the denitration process. Nicotine concentrations up to 2000 ppm did not influence the growth rate, denitration or cell mass production. At 3000 ppm nicotine the yeast showed the same growth rate, but it produced 35% less cell mass. Moreover, the denitration was not complete. Microscopical examination showed that, in these conditions, the yeast cells are much smaller and contain many granular structures (which may possibly be microsomes) as well as vacuoles.

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